A MORPHOLOGICAL NOTE ON THE TINGOIDEA.

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In the Piesmidæ and Tingidæ the hemielytra exhibit a structural feature which, I believe, has never been employed in characterizing the superfamily Tingoidea, and which seems to have been entirely overlooked except for a brief mention in de la Torre Bueno's description of *Corythaica bellula.** This structure, which I propose to term the *hypohemielytral lamina,* is a reticulated ridge projecting ventrally from the first longitudinal vein within the costal margin of each hemielytron and extending from the base of the wing to a point at or a little beyond the apex of the abdomen. It follows closely the outline of the abdomen and obviously serves to strengthen very considerably the body of these delicate and fragile insects, preventing any undue overlapping of the hemielytra and contributing an element of rigidity. Our knowledge of the venation of the Heteroptera, as set forth in Comstock's recent book,† is rather meager and affords little assistance in determining the homologies involved, but the suggestion is ventured that the hypohemielytral lamina may have something to do with the *subcostal fold,* a structure of wide occurrence among insects, although the fully developed lamina is not apparently double.

Usually the hypohemielytral lamina is a rather low ridge, of nearly uniform height throughout its length, and containing a single series of clearly defined areoles,—conditions which obtain in the following genera: *Acalypta, Stephanitis, Gargaphia, Leptostyla, Physatocheila, Melanorhopala, Alveotingis, Hesperotingis, Teleonemia, Tingis, Catoplatus, Oncochila.* In *Atheas, Copium, Monanthia,* and *Serenthia* the lamina is extremely narrow and the areoles very small, while in *Piesma* the areoles are scarcely perceptible and the lamina is reduced to a mere beading. In *Corythucha* and *Acysta* there is a single series of small areoles and the lamina is narrow, widened distinctly at base in the former

*A New Species of Tingid from New York, Bull. Brooklyn Ent. Soc., 1917, vol. 12, pp. 19–20.

† The Wings of Insects, 1918, Ithaca.

and gradually tapering from base to apex in the latter. In *Galeatus* the basal expansion is very strongly marked, while beyond the third cell of the costal area the lamina is narrowed to the almost total obliteration of the areoles. The lamina in *Hyalochiton* is rather wide, with a single row of large areoles.

In two of the genera examined the lamina contains more than a single series of areoles, and a new character of taxonomic importance is indicated. *Leptobyrsa* has several irregular rows, three at middle and one at extreme base and apex. In *Corythaica bellula* the lamina is relatively broad, tapering at both ends, and there are two almost regular series of areoles with some indications of a third series toward base, not one as stated in the original description.

The hypohemielytral lamina of *Leptoypha* is of the usual type, with a single series of small areoles, but owing to the slight development of the costal area in certain species the structure may easily be misunderstood. In *L. mutica* the costal area is areolate only toward the apex of the hemielytra, becoming reduced to a mere carina anteriorly. The lamina terminates near the apex of the hemielytra, considerbly beyond the point where the costal area becomes widened and areolate, so that both costal area and hypohemielytral lamina are obviously present apically, and by tracing them forward their relations are made clearly apparent. In his treatment of *Leptoypha** (pp. 58–59) McAtee appears to have misinterpreted these structures. The subcostal area does not in any way form the lateral margin of the hemielytra; on the contrary the cariniform remnant of the costal area forms this margin throughout, without regard to the point of view, and it is the uniseriate hypohemielytral lamina, not the "anteriorly deflexed costal area," which comes into view when the specimen is examined from the side or beneath.

*Key to the Nearctic Species of Leptoypha and Leptostyla, Bull. Brooklyn Ent. Soc., 1917, vol. 12, pp. 55–64.